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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,728	12/29/2001	Joseph Zeck	DCI-19C	4116

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EXAMINER

FULLER, ERIC B

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 07/18/2002

3

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/040,728

Applicant(s)

ZECK ET AL.

Examiner

Eric B Fuller

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 December 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      5) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.                      6) ☐ Other: \_\_\_\_\_

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## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a) because they fail to show arrow 54 as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

The disclosure is objected to because of the following informalities: Paragraph 4, lines 4-7 reads "U.S. Patent No. 4,347,380 entitled... (hereinafter the '380) patent)...". The patent bearing this title and subject matter is actually U.S. Patent No. 4,387,340. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marthaler et al. (US 4,738,060) in view of Peterman (US 4,387,340) and Rodgers et al. (US 6,064,940).

Marthaler teaches that it is common practice that when someone wishes to disturb an area of ground that contains utility lines, the utility company will temporarily mark the location of the buried utility lines with paint prior to the disturbance. The reference also teaches that it is not always possible for the marking person to accurately mark the location of the buried element due to either his or her own errors or errors in the guide-map that is used (column 1, lines 15-30). From this, one skilled in the art would recognize that a more accurate method is needed to mark utility lines that are buried underground.

Peterman teaches an apparatus that is used to detect buried cables by measuring the electromagnetic signal that it releases (column 2, lines 35-45). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use this apparatus to detect buried cables prior to paint marking the ground. By doing so, one would reap the benefits of the Peterman apparatus being more accurate than the guide-map. The reference fails to teach a method that reduces errors on the part of the person performing the marking.

Rodgers teaches an apparatus that is used for painting lines on a construction site. The apparatus comprises a locator mechanism and a marking mechanism (abstract). The locator determines the position of the apparatus by its relative location by receiving signals from preset reference points (column 3, lines 30-50). When the

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apparatus is at a desired location, as determined by a computer, an actuator is triggered and the ground is marked with paint. The benefit of the Rodgers apparatus is that it prevents the operator from making mistakes in interpreting blueprints (column 1, lines 45-50). Thus an unskilled operator with minimal training can perform the marking without making errors (column 1, lines 55-60).

From these three references, one skilled in the art would recognize the following:

It is known that errors exist in the field of marking utility lines. These errors stem from errors made in the guide-map and errors made by the operator.

Peterman provides an apparatus that receives signals that determine where utility lines exist. This overcomes errors that may exist in the guide-map.

Rodgers provides an apparatus that receives signals that determines where the location of the apparatus is. A paint mark is automatically made at that location. This overcomes any operator errors.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize the apparatus taught by Peterman as the signal receiving mechanism in Rodgers. By doing so, the combined apparatus is capable of detecting utility lines and marking them with paint without errors, even when being used by an unskilled operator. This combined apparatus of Rodgers and Peterman overcomes the problems taught by Marthaler. It will now be shown in detail how the combined Rodgers/Peterman apparatus reads on the applicant's claims

As to claim 1, figure 2 of Rodgers shows the marking and locating devices are integrally supported together. The locator (B) is supported in one operating position and

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the marking device (17) is located in a second position in relation to the locator. The locator is fixed in a fixed height over the ground relative to the buried cable. The marking apparatus marks the location on the ground.

As to claims 2 and 3, Rodgers teaches that the supply of paint is from spray paint cans (column 3, lines 20-25). It would be obvious that the cans are replaceable.

As to claim 4, figure 1 of Rodgers shows that the operator is in the upright position.

As to claims 5 and 6, the apparatus of Rodgers teaches automatic marking in response to location. However, it would have been obvious that a system involving the locator signaling the operator to actuate the marking device, either by finger actuation or foot actuation, would give similar results of marking on the desire location.

The limitations to claims 7, 8, and 9 have previously been addressed in this Office Action.

As to claims 10-13, Rodgers teaches the solenoid that is used to activate the spray mechanism (column 4, lines 8-15). One of ordinary skill would have the knowledge and skill to couple the solenoid to the spray mechanism in order to perform the marking properly.

As to claim 14, Rodgers teaches an LCD screen that monitors the battery level of the apparatus, among other things. This reads on the apparatus comprising a battery pack that powers the electronics and solenoid.

The limitations of claims 15 and 16 have been previously addressed in this Office Action.

As to claims 17-19, The LCD screen taught by Rodgers monitors many parameters of the process. It would have been obvious to one skilled in the art to monitor the actuations or the apparatus. Specifically to claim 19, it is the position of the examiner, absence evidence of criticality, that the exact switching pattern used by the operator to initiate marking is one of design.

The limitations of claims 20 and 21 have been previously addressed in this Office Action. The housings may be more easily seen in figure 3 of Rodgers.

As to claim 22, figures 2 and 3 of Rodgers shows a hinge connected to both mechanisms (locator and marking device) of the apparatus (13). The apparatus is collapsible for easy storage. The first and second portions are moved relative to the handle when being collapsed.

The limitations of claims 23-30 have been previously addressed in this Office Action.

Claim 31 contains limitations that have already been addressed. Furthermore, the housing arrangement (A) may be seen in figure 2 of Rodgers.

The limitations of claims 32-37 have been previously addressed in this Office Action.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Smrt (US 6,062,443), Eslambolchi et al. (US 6,294,022 B1), and Smrt (US 5,368,202) are all cited as being pertinent to applicant's disclosure.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B Fuller whose telephone number is (703) 308-6544. The examiner can normally be reached Mondays through Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached at (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



EBF  
July 11, 2002



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